

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (PREVIOUSLY PRESENTED) An ink-jet recording apparatus comprising:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite to the recording head, the platen having a first hole formed in an area of the platen opposite a downstream portion of the dot formation element array with respect to the first direction, and which guides ink that has been discarded outside a leading end of the recording medium when data are recorded on the recording medium without leaving a margin on the leading end of the recording medium,

wherein the first hole has a size in the first direction which is less than an entire portion of the dot formation element array.

2. (PREVIOUSLY PRESENTED) An ink-jet recording apparatus comprising:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite to the recording head, the platen having a first hole which is formed in an area of the platen opposite an upstream portion of the dot formation element array with respect to the first direction, and which guides ink that has been discarded outside a trailing end of the recording medium when data are recorded on the recording medium without leaving a margin on the trailing end

of the recording medium,

wherein the first hole has a size in the first direction which is less than an entire portion of the dot formation element array.

3. (PREVIOUSLY PRESENTED) An ink-jet recording apparatus comprising:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen for holding a recording medium in position opposite the recording head, the platen having:

a first hole formed in an area of the platen opposite a downstream portion of the dot formation element array with respect to the first direction, and which guides ink that has been discarded outside a leading end of the recording medium when data are recorded on the recording medium without leaving a margin on the leading end of the recording medium; and

a second hole formed in an area of the platen opposite an upstream portion of the dot formation element array with respect to the first direction, and which guides ink that has been discarded outside a trailing end of the recording medium when data are recorded on the recording medium without leaving a margin on the trailing end of the recording medium.

4. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 3, wherein the recording head is arranged so as to be able to selectively perform a standard interlaced recording operation for recording data by actuation of all the dot formation elements of the dot formation element array, and a limited interlaced recording operation for limitedly actuating a portion of the dot formation elements, through use of a dot drive control section, and the limited interlaced recording operation is performed when the leading end of

the recording medium is situated at the first hole and when the trailing end of the recording medium is situated at the second hole.

5. (CURRENTLY AMENDED) The ink-jet recording apparatus as defined in claim 3, wherein the platen comprises at least one flat-portion supporting member, which is to be come into contact with the recording medium and operable to support the recording medium from below, is formed in an area to be opposite to the dot formation element array.

6. (CURRENTLY AMENDED) The ink-jet recording apparatus as defined in claim 3, wherein the platen comprises at least one flat-portion supporting member, which is to be come into contact with the recording medium and operable to support the recording medium from below, is located in an area of the platen to be opposite to the downstream portion of the dot formation element array.

7. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 3, wherein an ink-absorbing material is provided within each of the first and the second holes.

8. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 3, wherein a water repellent net is provided so as to cover an opening of each of the first and the second holes, and ink-absorbing material is provided in each of the first and the second holes so as to be in contact with the water repellent net.

9. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined claim 3, wherein a reclosable closure is attached to an opening of each of the first and the second holes, and the closure is opened when data are recorded on the recording medium without leaving a margin on at least one of the leading or the trailing end of the recording medium, the closure being closed when data are recorded on the recording medium while leaving a margin.

10. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined claim 9, wherein the closure has a pivot located below the opening of an associated one of the first or the second holes and is pivotally opened or closed by being pivoted around the pivot.

11. (PREVIOUSLY PRESENTED) A recording method for recording data on a recording medium, comprising steps of:

providing an ink-jet recording apparatus which comprises:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite the recording head;

squirting ink while an end portion of the recording medium is situated within an area of the platen opposite to the dot formation element array, such that a portion of the ink is discarded into a hole locally formed in the area of the platen, to thereby record data on the recording medium without leaving a margin on an edge of the recording medium,

wherein the hole opposes less than the entire portion of the dot formation element array with respect to the first direction.

12. (PREVIOUSLY PRESENTED) A recording method for recording data on a recording medium, comprising steps of:

providing an ink-jet recording apparatus which comprises:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite the recording head; squirting ink while an end portion of the recording medium is situated within an area of the platen opposite to the dot formation element array, such that a portion of the ink is discarded into a hole locally formed in the area of the platen, to thereby record data on the recording medium without leaving a margin on an edge of the recording medium,

wherein the recording head performs an interlaced recording operation for actuating only a portion of the dot formation elements which are located at a position close to the end portion of all the dot formation elements when data are recorded on the end portion of the recording medium without leaving a margin.

13. (PREVIOUSLY PRESENTED) An ink-jet recording apparatus comprising:
a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction and which is reciprocally moved in a second direction perpendicular to the first direction;

a platen operable to hold one of recording media having a plurality of predetermined sizes in position opposite to the recording head, the platen having a plurality of holes in areas to be opposite to both side ends of at least one of the recording media in the second direction; and

a control section for controlling, on the basis of recorded data, squirting of ink from

the recording head, the control section having:

a first operation mode in which a recording operation is performed by expanding recorded data within a record region inside the both side ends of the one of recording media; and

a second operation mode in which a recording operation is performed by expanding the recorded data within a record region outside the both side ends of the one of the recording media and inside each outer edge of associated holes in the second direction, the second operation mode being selected in a case where data is recorded on the one of recording media without leaving a margin on either side thereof,

wherein each of the holes extends in the first direction beyond areas to be opposite to both ends of the dot formation element array.

14. (PREVIOUSLY PRESENTED) An ink-jet recording apparatus comprising:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction and which is reciprocally moved in a second direction; and

a platen operable to hold one of recording media having a plurality of predetermined sizes in position opposite to the recording head, the platen having a plurality of holes in areas to be opposite to both side ends of at least one of the recording media in the second direction, and having a plurality of protuberances arranged at a predetermined interval in the second direction,

wherein each of the holes extends in the first direction beyond areas to be opposite to both ends of the dot formation element array.

15. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 13, wherein the recording region for the second mode is set to be wider than a width of each of the recording media in the second direction by 4.5 mm to 5.5 mm.

16. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 13, wherein in both the first and second operation modes, the control section assumes, as a speed at which the recording head reciprocally travels in the second direction, a single acceleration gradient at which the recording head is to shift from a stationary state to a constant-speed state and a single deceleration gradient at which the recording head is to shift from the constant-speed state to the stationary state, and a travel distance attained by the recording head of the second operation mode in the constant-speed state is longer than a travel distance attained by the recording head of the first operation mode in the constant-speed state, and travel distance in an acceleration side and travel distance in a deceleration side are substantially equal.

17. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 13, wherein an ink-absorbing material is provided in each of the holes, such that an upper surface thereof is located in the vicinity of each opening of the holes.

18. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 14, wherein an ink-absorbing material is provided in each of the holes, such that an upper surface thereof is located in the vicinity of each first opening of the holes.

19. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 17, wherein a first removal stopper is provided along an edge of the first opening, for preventing removal of the ink-absorbing material toward the recording head.

20. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 19, wherein the first removal stopper is formed into a step provided along the edge of the first opening.

21. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 13, wherein each of the holes penetrates through the platen in a third direction orthogonal to the first direction and the second direction.

22. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 21, wherein a second removal stopper is provided in each of the holes for preventing removal of the ink-absorbing material away from the recording head.

23. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 22, wherein the second removal stopper is protruded from an interior surface of each of the holes so as to extend in the third direction.

24. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 22, wherein the second removal stopper is formed into a step provided along an edge of a second opening of each of the holes opposite to the first opening.

25. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 21, wherein a tilt section is provided in each of the holes so as to be angled from the third direction, and an ink-absorbing material is laid on the tilt section.

26. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 21, wherein a tilt section is provided in each of the holes so as to be angled from the third direction, and a plurality of ribs extending in a tilting direction of the tilt section are provided on the tilt section at a predetermined interval such that top surfaces of the ribs are located lower than an opening of each of the holes.

27. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 3, wherein:

the platen has a plurality of third holes in areas to be opposite to both side ends of at least one of recording media having a plurality of predetermined sizes;

each of the third holes extends in the first direction beyond areas to be opposite to both ends of the dot formation element array; and

the ink-jet recording apparatus further comprises:

a control section for controlling, on the basis of recorded data, squirting of ink from the recording head, the control section having:

a first operation mode in which a recording operation is performed by expanding recorded data within a record region inside the both side ends of the recording medium; and

a second operation mode in which a recording operation is performed by expanding the recorded data within a record region outside the both side ends of the one of the recording media and inside each outer edge of associated third holes in a second direction perpendicular

to the first direction, the second operation mode being selected in a case where data is recorded on the one of the recording media without leaving a margin on either side thereof.

Claims 28 and 29 (CANCELLED)

30. (PREVIOUSLY PRESENTED) The ink-jet recording apparatus as defined in claim 27, wherein the recording head is arranged so as to be able to selectively perform a standard interlaced recording operation for recording data by actuation of all the dot formation elements of the dot formation element array, and a limited interlaced recording operation for limitedly actuating a portion of the dot formation elements, through use of a dot drive control section, and the limited interlaced recording operation is performed when the leading end of the recording medium is situated at the first hole and when the trailing end of the recording medium is situated at the second hole.

Claims 31 and 32 (CANCELLED)

33. (PREVIOUSLY PRESENTED) A recording method for recording data on a recording medium, comprising steps of:

providing an ink-jet recording apparatus which comprises:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite the recording head;

squirting ink while an end portion of the recording medium is situated within an area of the platen opposite to the dot formation element array, such that a portion of the ink is

discarded into a hole locally formed in the area of the platen, to thereby record data on the recording medium without leaving a margin on an edge of the recording medium,

wherein the hole is formed in a surface of the platen, and

wherein at least a portion of the surface directly opposes at least a portion of the dot formation element array with respect to the first direction.

34. (PREVIOUSLY PRESENTED) The recording method as defined in claim 12, wherein the recording head performs an interlaced recording operation for recording data on the recording medium by actuation of all dot formation elements when the data are recorded in a record region other than the end portion.

35. (PREVIOUSLY PRESENTED) A recording method for recording data on a recording medium, comprising steps of:

providing an ink-jet recording apparatus which comprises:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite the recording head; squirting ink while an end portion of the recording medium is situated within an area of the platen opposite to the dot formation element array, such that a portion of the ink is discarded into a hole locally formed in the area of the platen, to thereby record data on the recording medium without leaving a margin on an edge of the recording medium,

wherein the recording head performs an interlaced recording operation for actuating one of the dot formation elements located at a position close to the end portion of all the dot formation elements when data are recorded on the end portion of the recording medium

without leaving a margin,

wherein the hole opposes less than the entire portion of the dot formation element array with respect to the first direction.

36. (PREVIOUSLY PRESENTED) A recording method for recording data on a recording medium, comprising steps of:

providing an ink-jet recording apparatus which comprises:

a recording head having a dot formation element array including a plurality of dot formation elements arranged in a first direction; and

a platen operable to hold a recording medium in position opposite the recording head; squirting ink while an end portion of the recording medium is situated within an area of the platen opposite to the dot formation element array, such that a portion of the ink is discarded into a hole locally formed in the area of the platen, to thereby record data on the recording medium without leaving a margin on an edge of the recording medium,

wherein the recording head performs an interlaced recording operation for actuating one of the dot formation elements located at a position close to the end portion of all the dot formation elements when data are recorded on the end portion of the recording medium without leaving a margin,

wherein the hole is formed in a surface of the platen, and

wherein at least a portion of the surface directly opposes at least a portion of the dot formation element array with respect to the first direction.